

CLAIMS

1. A mild steel rolled strip used for a shadow mask, which consists of Al-killed steel having 1.03 or less of TS (tensile strength)/0.2% YS (yield strength) measured in a direction parallel to a rolling direction (RD), wherein said strip may have cross sections S_1 and S_2 parallel and perpendicular to the rolling direction, respectively, wherein tensile residual stress (σ_r) is generated on a central portion of the cross sections S_1 and S_2 , in the rolling direction (RD) and a direction perpendicular to the rolling direction (RD), respectively, characterized in that said tensile residual stress (σ_r) is 50N/mm² or less at the highest; and further warp of said strip is 10 mm or less, when measured by the following method:

a first rectangle specimen elongated in the rolling direction (RD) and having long and short sides is sampled from the strip, such that the long sides are 500 mm long and the short sides 50 mm wide, a second rectangle specimen elongated in a direction perpendicular to the rolling direction (RD) and having long sides and short sides is sampled from the strip, such that the long sides are 500 mm long and short sides are 50 mm wide, and the first and second rectangle specimens are clamped at one of the ends on a flat sheet fixed horizontally and are suspended downwards in the direction of the long sides thereof, and warp of the other non-clamped ends is measured.

2. A mild steel according to claim 1, wherein said Al-killed steel consists of: 0.010 mass % or less of C; 0.04 mass % of Si; 0.08 mass % or less of Al; from 0.10 to 0.60 mass % of Mn; 0.040 mass % or less of S; and, 0.035 mass % or less of P, the balance being Fe and unavoidable impurities.

3. An Fe-Ni alloy rolled strip used for a shadow mask, which consists of Fe-Ni alloy containing from 34 to 38 mass% of Ni and having 1.03 or less of TS (tensile strength)/0.2% YS (yield strength) measured in a direction parallel to a rolling direction (RD), wherein said strip may have cross sections S_1 and S_2 parallel and perpendicular to the rolling direction (RD), respectively, wherein tensile residual stress (σ_r) is generated on a central portion of the cross sections S_1 and S_2 in the rolling direction (RD) and a direction perpendicular to the rolling direction (RD), respectively, characterized in that said residual stress tensile (σ_r) is adjusted to 50N/mm² or less at the highest; and further warp of said strip is 10 mm or less, when measured by the following method:

a first rectangle specimen elongated in the rolling direction (RD) and having long sides and short sides, is sampled from the strip, such that the long sides are 500 mm long and the short sides 50 mm wide, a second rectangle specimen elongated in a direction perpendicular to the rolling direction and having long sides and short sides is sampled from the strip, such that the long sides are 500 mm long and the short sides are

50 mm wide, and the first and second rectangle specimens are clamped at one of the ends on a flat sheet fixed horizontally and are suspended downwards in a direction of the long sides thereof, and warp of the other non-clamped ends is measured.

4. An Fe-Ni alloy rolled strip according to claim 3, wherein said Fe-Ni alloy
5 contains from 2 to 8 mass % of Co.

5. An Fe-Ni alloy rolled strip according to claim 4, wherein said Fe-Ni alloy contains from 0.05 to 0.8 mass % of at least one element selected from the group consisting of Nb, Ta, Hf, Ti and Zr.

6. An Fe-Ni alloy rolled strip according to claim 3, 4 or 5, wherein said
10 Fe-Ni alloy further contains 0.10 mass % or less of C and 0.1 mass % or less of Si, 0.05 mass % or less of Al; 0.5 mass % or less of Mn; 0.005 mass % or less Si; and 0.005 mass % or less of P.

7. An Fe-Ni alloy rolled strip according to claim 6, wherein the Si content is 0.05 mass % or less.